

# Non-Hazardous Waste Diversion at LLNL

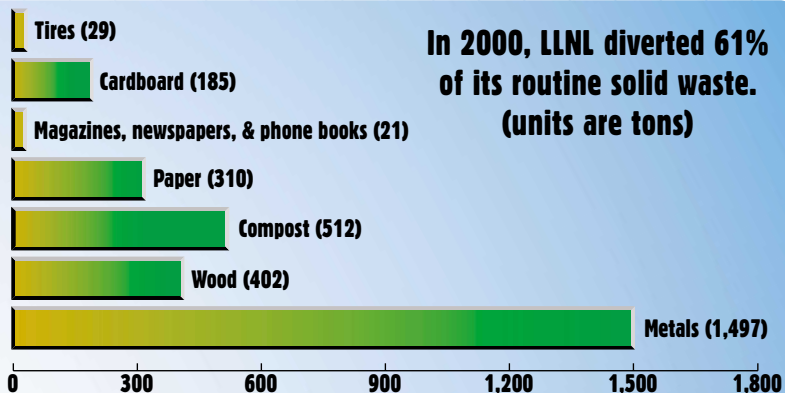


## LLNL turns scrap material from waste streams into reusable resources

*Each year U.S. industry produces millions of tons of solid waste. Lawrence Livermore National Laboratory (LLNL) is committed to reducing its portion of this waste stream. In calendar year 2000, LLNL diverted almost 61% of its 5,000-ton routine solid waste stream (excluding industrial waste; construction and demolition waste disposal and recycling; and Donation, Utilization, and Sales [DUS] donations). If construction and demolition waste/waste diversion and DUS donations were included, the diversion percentage increases to 86%. LLNL has strengthened its Buy-Recycle Program and continues its activities to promote employee awareness. LLNL's solid waste reduction/diversion programs and their results in 2000 are profiled below.*

### Waste/recycling electronic database

To track LLNL waste generation and recycling efforts economically, the LLNL Pollution Prevention staff designed and maintains an electronic database.



### Metals and other recovery/reuse/recycling programs

The DUS Group operates several innovative recovery/reuse/recycling "drop-off" programs. These programs recycle ferrous and nonferrous metals

(1,497 tons), cardboard, magazines, external phone books, and newsprint. Through the DUS Group, surplus equipment is re-assigned throughout LLNL or is donated to other federal agencies or auctioned.

In 2000, DUS donated over 160 tons of material. The DUS reuse programs include pallet, moving-box, tire, and equipment reuse. A total of 1,718 tons of materials were diverted from the LLNL solid waste stream.

### Wood recycling

Unusable wood, such as broken pallets and demolition scraps, is picked up by a local vendor. In 2000, this program diverted 402 tons from the LLNL solid waste stream.

### Plant clippings/composting

In 2000, LLNL gardeners composted 512 tons of plant and tree clippings as well as street sweepings and used the compost on site as a soil amendment. This program not only diverts large amounts of plant material from the LLNL solid waste stream, but it reduces the need to purchase soil amendments.

LLNL holiday trees are collected by LLNL gardeners and then processed for use as soil amendments on site.

### Office and ledger paper collection and recycling

Since April 1991, LLNL has operated a full-site paper recycling program with over 125 facility collection points. The paper is transported under escort to a vendor facility where it is shredded and recycled.

(over)

Classified paper is handled in a separate system. It is sent to a hammer mill on site for processing and subsequent recycling.

To increase its solid waste diversion, LLNL recently expanded its paper recycling program. The program added newspapers, magazines, and soft-bound reports to the types of paper that could be recycled. A total of 310 tons of paper was recycled in one year.

## **Magazine, newspaper, and external phone books recycling**

Undeliverable magazines, external phone books, and uncirculated copies of the employee newspaper (*Newsline*) are recycled by Mail Services and the DUS Group through a local vendor. In 2000, this program diverted 21 tons from the LLNL solid waste stream. Collection bins are located south of B41I and south of B616.

## **Cardboard recycling**

The LLNL cardboard recycling program now includes weekly pickups from 130 facility collection points and diverted over 185 tons from LLNL's solid waste stream in 2000.

## **Tire recycling**

In 2000, LLNL recycled over 29 tons of used tires.

## **Community food donation**

The vendor that operates LLNL's three cafeterias donates excess prepared food to a local food bank.

## **Education Program—excess equipment reuse**

The Education Program makes excess equipment available to school districts. Items such as used computer equipment, office supplies, etc., can be sent to DUS by employees or programs. In 2000, LLNL donated over 160 tons of equipment.

## **Beverage-container recycling**

In late 1999, LLNL instituted a beverage-container recycling program at all LLNL cafeterias. This program accepts glass, plastic, and aluminum beverage containers as well as steel cans generated from cafeteria food

preparation. In 2000, this recycling program diverted 15 tons of material from the LLNL waste stream.

## **Printer toner cartridge reconditioning/reuse**

LLNL routinely uses, whenever possible, reconditioned toner cartridges in its computer printers. In 2000, more than 2 tons of cartridges were returned for reconditioning/reuse.

## **Buy-Recycle Program**

Under a Buy-Recycle Program, LLNL purchases items that use recovered/recycled material, such as copy paper, moving boxes, publication paper, and toner cartridges.

## **Employee awareness**

The LLNL employee awareness program includes new-employee orientation, *Newsline* articles, and briefings (upon request) to employee groups. In addition, the Pollution Prevention staff operate the Earth Hotline (E-ARTH or 3-2784) to respond to employee questions and suggestions, or to provide information regarding source reduction, reuse, and recycling.

Please write or call for additional information:

Permits and Regulatory Affairs Group  
Operations and Regulatory Affairs Division  
Lawrence Livermore National Laboratory  
7000 East Avenue, P.O. Box 808, Mail Stop L-627  
Livermore, CA 94551

Contact:	Kent Wilson
Tel. No.:	(925) 423-2115
E-mail:	wilson20@llnl.gov
Fax No.:	(925) 423-5490

Disclaimer: This document was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor the University of California nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or the University of California, and shall not be used for advertising or product endorsement purposes.

This work was performed under the auspices of the U.S. Department of Energy by the University of California, Lawrence Livermore National Laboratory under contract No. W-7405-Eng-48.